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Treaty Weakens America's Security

Comprehensive Test Ban Treaty Jeopardizes U.S. Nuclear Deterrent

After objecting to a proposal to expeditiously move to the consideration of the Comprehensive Test Ban Treaty (CTBT) offered by Majority Leader Trent Lott on September 30, Senate Democrats finally agreed to debate and vote on the treaty beginning Friday, October 8, 1999, at 9:30 a.m.

This multilateral treaty, intended to ban all nuclear explosions, was signed by the United States in September 1996 and transmitted to the Senate in 1997. Yet ratification of the CTBT will undermine confidence in our nuclear deterrent by making it impossible to confirm the reliability of the stockpile or to make improvements, including upgrades in weapons safety. But this is not the only problem with the CTBT.

The U.S. nuclear arsenal has shrunk greatly since the late 1980's, from around 12,000 strategic nuclear warheads to 6,000. The U.S. arsenal is programmed to reach a level of 3,500 to 3,000 nuclear warheads by 2003 under the provisions of the Strategic Arms Reduction Talks Treaty II (START II), ratified by the U.S. Senate in December 1992. [NOTE: Russia has not yet ratified START II.]

This post Cold War reduction was a reasonable step. However, as the numbers and mix of weapons in our nuclear arsenal decline, the need to assure reliability becomes even more critical because a failure of one weapon type will have a significant impact on the U.S. nuclear deterrent. Nuclear tests are the only demonstrated way to assure confidence in the reliability and safety of our nuclear weapons. Ratification of the CTBT would force the United States to rely on a yet-to-be-proven scientific alternative to nuclear testing. A main element of this alternative, called the Stockpile Stewardship Program (SSP), won't be available for a decade. In addition, this scientific alternative has not been properly calibrated with nuclear testing, since the United States has not conducted an underground test since 1992. And the data from past nuclear tests are insufficient for these purposes.

Further, U.S. adherence to the CTBT will do nothing to prevent proliferation. History proves that nations can, and have, acquired nuclear weapons without testing them. [These are not the only reasons to reject the CTBT: for example, this treaty cannot be verified. Problems with verifying this treaty will be the topic of an upcoming RPC paper.]

Finally, the CTBT can only enter into force when 44 specified nations — all those with nuclear power or research reactors, or both — ratify it. Importantly, to date North Korea and Iran have refused to sign; India and Pakistan are highly unlikely to ratify. For all of these reasons, Majority Leader Lott has concluded that this treaty "is bad for the country and dangerous" [*Congressional Record,* 9/30/99].

Reliability Requires Testing

Nuclear deterrence lies at the heart of U.S. national security policy. President Clinton admitted this in his statement accompanying the CTBT's transmission to the Senate:

> "As part of our national security strategy, the United States must and will retain strategic nuclear forces sufficient to deter any future hostile foreign leadership with access to strategic nuclear forces from acting against our vital interests and to convince it that seeking a nuclear advantage would be futile. In this regard, I consider the maintenance of a safe and reliable nuclear stockpile to be a supreme national interest of the United States."

But the CTBT will jeopardize nuclear deterrence by undermining the reliability of our nuclear weapons and by foreclosing the addition of advanced safety measures to our warheads.

To deter aggression, our adversaries and allies alike must consider the U.S. nuclear arsenal to be reliable. Reliability comes from having high confidence that weapons will work as intended. From 1945 to 1992, the United States used explosive testing of nuclear weapons to assure confidence in our weapons' reliability. Beginning in 1963, all tests were conducted underground, not in the atmosphere.

The need to validate the reliability of the U.S. nuclear arsenal is becoming even more critical because the size of the U.S. stockpile is declining, as is the mix of weapons designs within it. As highlighted by a Congressional Research Service (CRS) analysis, "A problem with one warhead type can affect hundreds or thousands of individual deployed warheads; with only 9 types of warheads expected to be in the stockpile in 2000, compared to 30 in 1985, *a single problem could affect a large fraction of the U.S. nuclear force*" [CRS, "Nuclear Weapons Production Capability Issues," 6/8/98; italics added].

History proves the critical need for nuclear tests to find and confirm problems with our arsenal. As highlighted in a 1987 Report to Congress prepared by the Lawrence Livermore National Laboratory (LLNL):

> "One-third of all weapons designs placed in the U.S. stockpile since 1958 have required and received post-deployment nuclear tests to resolve problems. In three-quarters of these cases, the problems were identified [*i.e., found and confirmed*] as a result of nuclear testing. The important point here is that in each case, *the weapon was thought to be reliable and adequately tested when it entered the stockpile*. Problems resulted from aging, from concerns about safety, from

environmental effects, or from a later realization that our understanding of the weapon's physical behavior was incomplete" ["Report to Congress on Stockpile Reliability, Weapon Remanufacture, and the Role of Nuclear Testing," LLNL, 10/87, pp. 2-3, italics added].

The implications of this for U.S. national security and deterrence are alarming: without nuclear tests to identify or evaluate these warheads, and testing to resolve many of these problems, a significant part of the U.S. nuclear arsenal would have been inoperable.

Then Secretary of Defense Caspar Weinberger, in a letter to Congress dated September 23, 1986, highlighted the benefits of nuclear testing as well as the costs of not doing so:

> "The irreducible fact is that nuclear testing is essential in providing for the safety and security of our warheads and weapon systems. It also is essential if we are to maintain their reliability. This is not a matter of conjecture, but a lesson learned through hard experience. For example, in the case of one nuclear system — the warhead for the Polaris (SLBM) — testing allowed us to fix defects that were suddenly discovered. *Until corrected, these defects could have rendered the vast majority of weapons in our sea-based deterrent completely inoperable*" [italics added].

Testing Critical for Weapons Safety

It is widely accepted that the U.S. Government has the moral obligation to ensure our nuclear weapons are as safe as possible and that they contain the best safety features available. Yet U.S. nuclear weapons are not as safe as they could be, because integrating advanced safety measures requires nuclear testing. Testing allows us to detect technical or safety problems and to ensure the proper improvements are built into a warhead.

The United States last conducted an underground nuclear test in 1992. Therefore, many weapons fall far short of the best possible measures that could be available if the United States decided to test. Thus the United States has foregone opportunities to add improved safety measures to its nuclear arsenal — insensitive high explosives, fire-resistant warheads, and enhanced nuclear detonation safety features — because to do so would have required nuclear testing. And a permanent test ban will forever keep the United States in this position. As technology advances further, new safety measures that could be examined will be ignored.

New Threats May Require New Defenses

Nuclear testing is critical not only for maintaining the reliability and safety of our arsenal, but to keep open our options for dealing with unanticipated threats. Today's nuclear arsenal is adequate for current threats, but this may not always be the case. The CTBT will limit our ability to tailor a nuclear defense to meet unexpected threats or new missions.

The aftermath of the Gulf War brought with it a new requirement for U.S. forces — to strike and destroy underground bunkers. The United States was able to modify an existing weapon to execute that mission. But as defensive technologies advance, it becomes more uncertain just what types of threats our nation will face in the future, and what types of defensive systems opponents may develop that can make U.S. warheads or delivery vehicles obsolete. It is highly conceivable that technological breakthroughs by U.S. adversaries could require a complete overhaul of U.S. delivery systems and nuclear warheads. [For further details, see Dr. Kathleen Bailey, "The Comprehensive Test Ban Treaty: The Costs Outweigh the Benefits," *CATO Institute*, 1/15/99.]

Administration's Testing "Alternative" Questionable

As if these problems weren't enough, the Administration's proposed alternative to nuclear testing is yet unproven and won't be available for a decade. The Administration expects the Senate to vote for a treaty without our knowing whether, when, or if its alternative to nuclear explosions will be fully capable of offsetting testing.

The Administration argues that the United States can maintain the requisite level of safety and reliability without nuclear explosions through the science-based Stockpile Stewardship Program (SSP). SSP relies on many new diagnostic tools, most of them still unbuilt and unproven. These scientific methods are to culminate in computerized simulations of nuclear explosions, whose information will be used to judge weapon safety, security, and reliability.

Yet many critical components of the Stockpile Stewardship Program are years away from being operational. A centerpiece of SSP is the National Ignition Facility (NIF), a high-powered laser system designed to carry out advanced experiments to check weapons reliability and safety. This massive laser, being built by the Lawrence Livermore National Laboratory (LLNL), was supposed to be completed by 2003 (still four years *after* the CTBT would take effect should the Senate ratify), but is now *two years behind schedule*.

The revelations of problems with the SSP come only two months after LLNL officials claimed that the project was on schedule. Even if the NIF becomes operational in 2005, U.S. weapons will have been untested for 13 years. With each passing year, as we await this program coming on-line, confidence in our deterrent can only decline. And applying the SSP to weapons after 13 years of dormancy becomes increasingly problematic since the weapon may not have aged as we might have anticipated. James Schlesinger, former Defense Secretary, Energy Secretary, Chairman of the Atomic Energy Commission, and Director of Central Intelligence pointed out that "it will be more than a decade before we can judge how successful the Stewardship Program will have been and [they] recognize that never before have we depended on weapons as old as those steadily aging weapons in the stockpile" [Subcommittee on International Security, 10/27/97, p. 6].

The Administration also contends that if or when a problem is discovered, the United States can remanufacture the weapon to meet safety and reliability criteria. But the remanufacturing process itself is riddled with challenges. According to Schlesinger:

"Individual components will be replaced if the judgment is reached that they have failed or are near failure. *We will try to make those replacements as identical as possible to the earlier component.* A problem exists that individual components go out of production, manufacturers go out of business, materials change, production processes change, certain chemicals previously used in production processes may have been forbidden under new environmental regulations...*The upshot is that we can never be quite certain that these replacement components will work as did their predecessors*" [Subcommittee on International Security, Proliferation, and Federal Services of the Senate Committee on Governmental Affairs, 10/27/97, p. 5, italics added].

Nuclear tests are also essential to understanding the effects of changes in weapons that result from remanufacturing. The remanufacture of the W68 Poseidon warhead provides an important example. As highlighted by the LLNB's "Report to Congress on Stockpile Reliability:"

"It is clear that the rebuilt W68 is different in substantial ways from the original. While some have stated that a production verification test of the rebuilt W68 was unnecessary, we believe that the results show that the test was indeed necessary, both to certify the adequacy of the production rebuild and to enable us to provide accurate advice to the Navy on maintenance and operational procedures. The W68 production verification test is a definite example of the need for nuclear tests when remanufacturing a warhead" [Subcommittee on International Security, p. 142].

CTBT Won't Stop Proliferation

While the Clinton Administration claims the CTBT will help stem proliferation, there is no evidence a nuclear testing ban will change the behavior of a country intent on acquiring nuclear weapons. Even a report issued by the National Academy of Sciences observed:

"In the final analysis, most countries will make their decisions about ... their maintenance of a nuclear option on the basis of their perception of their own

security interests, not on the actions of the U.S. and Soviet Union or other nuclear weapons states in testing" ["The Future of the U.S./Soviet Nuclear Relationship," 1991, p. 39].

China, even if it honors the treaty, will not be precluded from improving its weapons designs. On May 25, 1999, the bi-partisan House Select Committee on U.S. National Security and Military/Commercial Concerns With the People's Republic of China reported that China has stolen classified design information on seven U.S. thermonuclear warheads, including every currently deployed thermonuclear warhead in the U.S. ballistic missile arsenal. These thefts enabled the PRC to design, develop, and successfully test modern strategic delivery systems

sooner than would otherwise have been possible. The stolen U.S. nuclear secrets give the PRC design information on thermonuclear weapons on a par with our own.

The Clinton Administration's own CIA, in response to questions posed by the Senate Select Committee on Intelligence, admitted that a testing ban would not stop other countries from building nuclear weapons:

> "*Nuclear testing is not required for the acquisition of a basic nuclear weapons capability* (i.e., a bulky, first-generation device with high reliability but low efficiency). Tests using high-explosive detonations only (no nuclear yield) would provide reasonable confidence in the performance of a first generation device. Nuclear testing becomes critical only when a program moves beyond basic designs to incorporate more advanced concepts.
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> "The primary hurdle for any potential proliferant (including North Korea and Iraq) is the acquisition or production of weapons-grade fissile material. . . . Proliferants that can clear this hurdle probably are capable of developing a workable nuclear device. Nuclear testing is always desirable to improve confidence in a weapon's performance, *but it is not critical for a first-generation weapon*" [Answer by George Tenet, Director of CIA, to a question submitted pursuant to a hearing on Current and Projected National Security Threats to the U.S., 2/5/97, pp. 87-88, italics added].

U.S. adherence to the CTBT could even promote proliferation. According to Schlesinger:

> "The motivation for the so-called rogue nations — Iraq, Iran, Libya, North Korea — to acquire nuclear weapons surely will not be affected by whether or not the United States tests. Similarly, the possession of nuclear capabilities by the so-called nuclear threshold states — India, Pakistan, Israel — depend upon regional circumstances and are scarcely affected by whether or not the United States tests. Indeed, the incentives might actually point in the opposite direction. *If confidence in the reliability of the U.S. nuclear deterrent were to decline, other nations that have been content to rely on American protection might feel impelled to seek their own nuclear protection*" [Statement Before the Subcommittee on International Security, 10/27/97, p. 8, italics added].

The Senate Should Vote "No" on CTBT

The Comprehensive Test Ban Treaty will jeopardize rather than enhance U.S. national security. A permanent halt to testing would prevent us from making safety improvements to our arsenal or from responding to new threats, eventually undermining the credibility of America's nuclear deterrent. It will prevent the United States from detecting possible problems with weapon safety, effectiveness and survivability, and from developing appropriate corrective measures. The Administration's proposed alternative to testing is based on yet-to-be-proven

scientific methods which won't even be available for a decade. And the CTBT will not prevent any country from building nuclear weapons.

Finally, no Republican administration has ever sought a zero-yield test ban, let alone one of unlimited duration, as is this treaty endorsed by President Clinton. President Bush in 1992 reluctantly signed the Hatfield-Exon-Mitchell amendment limiting the number and purpose of nuclear tests and setting a September 1996 date for ceasing U.S. tests as a provision contained in the Energy and Water Development Appropriation Act of 1993, labeling this provision "highly objectionable." Further, the Bush Administration's report to Congress required by the amendment highlighted the view that testing was still necessary:

> "The requirement to maintain and improve the safety of our nuclear stockpile and to evaluate and maintain the reliability of U.S. forces necessitates continued nuclear testing for those purposes, albeit at a modest level, for the foreseeable future. The administration strongly urges the Congress to modify this legislation urgently in order to permit the minimum number and kind of underground nuclear tests that the United States requires, regardless of the action of other States, to retain safe, reliable, although dramatically reduced deterrent forces." [Hearing before the International Security Subcommittee, p.42]

For all of these reasons, and more not stated here, the Senate should vote against the Comprehensive Test Ban Treaty.

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